

AMENDMENTS TO THE CLAIMS

Claims 1-16 (cancelled)

Claim 17 (previously presented): An artificial joint for a patient comprising:

a joint plateau having a recess including a first dimension; and

a joint overlay having a projection corresponding to the recess and a second dimension, the second dimension being larger than the first dimension at a body temperature of the patient,

wherein the projection is insertable into the recess by virtue of a temperature difference of at least one of the projection and the recess with respect to the body temperature, a contact area being formed between the projection and the recess at the body temperature,

wherein at least one of the second dimension and the contact area is determined such that fixation forces exerted on the projection at the body temperature create a state of stress in at least one of the joint overlay and the joint plateau, the state of stress improving at least one of a load-bearing capacity and a durability of the artificial joint,

wherein the recess has an undercut positively affixing the projection, the undercut being determined by at least one of a contour and a topography of the joint overlay, and

wherein the contact area encircles the projection and is continuous.

Claim 18 (previously presented): The artificial joint as recited in claim 17, wherein a magnitude of the state of stress is adjustable in the joint overlay by the fixation forces.

Claim 19 (previously presented): The artificial joint as recited in claim 17, wherein the contact area is configured such that at least one of a magnitude and a direction of the state of stress is adjustable.

Claim 20 (previously presented): The artificial joint as recited in claim 17, wherein the load-bearing capacity of the artificial joint is the capacity of the joint to withstand an external force applied to the artificial joint and wherein a magnitude of the state of stress is greater than a magnitude of the external force applied.

Claim 21 (previously presented): The artificial joint as recited in claim 17, wherein the state of stress is adjustable as a function of a main load plane of the artificial joint.

Claim 22 (previously presented): The artificial joint as recited in claim 17, wherein the state of stress is prescribed by a pre-stressing that counters an external application of force to the artificial joint.

Claim 23 (previously presented): The artificial joint as recited in claim 17, further comprising an intermediate element disposed in a region of the contact area and configured to adjust the state of stress.

Claim 24 (previously presented): The artificial joint as recited in claim 23, wherein the intermediate element is affixable in different positions.

Claim 25 (previously presented): The artificial joint as recited in claim 23, wherein the intermediate element is configured as a bowl.

Claim 26 (cancelled)

Claim 27 (previously presented): The artificial joint as recited in claim 17, wherein the joint plateau and the joint overlay different coefficients of thermal expansion.

Claim 28 (previously presented): The artificial joint as recited in claim 17, wherein the joint plateau and the joint overlay are connected to each other in a way that contours of the joint plateau and the joint overlay are flush with each other.

Claim 29 (previously presented): The artificial joint as recited in claim 17, wherein a surface of at least one of the projection and the recess forming the contact area includes a surface characteristic for improving force transmission.

Claim 30 (previously presented): The artificial joint as recited in claim 29, wherein the surface characteristic includes at least one of a roughness and a structuring.

Claim 31 (currently amended): The artificial joint as recited in claim 17, wherein the projection includes [[a]] polyethylene and the joint plateau includes a metal.

Claim 32 (cancelled):

Claim 33 (previously presented): A method for connecting a joint plateau to a joint overlay of an artificial joint of a patient, the method comprising:

providing a joint overlay having a projection including a first dimension;

providing a joint plateau having a recess corresponding to the projection, the recess having second dimension larger than the first dimension at a body temperature of the patient;

bringing at least one of the projection and the recess to a temperature different from the body temperature;

inserting the projection into the recess; and

bringing the projection and the recess to body temperature so as to form a contact area between the projection and the recess so as to connect the joint plateau to the joint overlay,

wherein the first dimension and the second dimension are determined such that fixation forces exerted on the projection at the body temperature create a state of stress in at least one of the joint overlay and the joint plateau that improves at least one of a load-bearing capacity and a durability of the artificial joint,

wherein the recess has an undercut positively affixing the projection, the undercut being determined by at least one of a contour and a topography of the joint overlay, and

wherein the contact area encircles the projection and is continuous.